

CLAIMS

1. A transmission line structure comprising:

a substrate;

first and second spaced, parallel conductive beams suspended above said substrate and
5 forming a transmission line, said beams being spaced laterally from one another by a selected distance;

an actuator for moving at least one of said conductive beams laterally to reduce said distance between said beams and thereby alter the electrical characteristics of said transmission line.

2. The transmission line structure of claim 1, wherein said first and second conductive beams are each formed from single crystal silicon having a conductive metal layer formed thereon.

3. The transmission line structure of claim 1, wherein said transmission line includes a
15 matching section disposed between first and second end sections, said matching section being disposed at an angle relative to first and second end sections, and said actuator serves to vary the capacitance of said first and second end sections, whereby, said transmission line structure acts as a phase shifter.

4. The transmission line structure of claim 3, wherein said matching section is disposed
20 at a right angle relative to said first and second end sections..

5. The transmission line structure of claim 1, wherein said first and second conductive beams are each suspended above said substrate by a plurality of anchors disposed on said substrate.

6. The transmission line structure of claim 1, wherein said actuator is a microactuator.

5 7. The transmission line structure of claim 6, wherein said microactuator is a comb-drive type actuator.

8. The transmission line structure of claim 1, wherein a first actuator is provided for moving said first beam laterally toward said second beam, and a second actuator is provided for moving said second beam laterally toward said first beam.

9. The transmission line structure of claim 1, wherein said first and second beams are laterally movable by said actuator into engagement with one another, whereby, said transmission line acts as an electrical switch.

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